



## PATENT APPLICATION

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q76265

Hiroyuki ASAKO, et al.

Appln. No.: 10/608,533

Group Art Unit: 1645

Confirmation No.: 8267

Examiner: Unknown

Filed: June 30, 2003

For: MODIFIED REDUCTASE AND ITS GENE

#### **INFORMATION DISCLOSURE STATEMENT** **UNDER 37 C.F.R. §§ 1.97 and 1.98**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

| <u>Serial No.</u> | <u>Applicant's Name</u> | <u>Filing Date</u> |
|-------------------|-------------------------|--------------------|
| 10/608,625        | ASAKO et al.            | June 30, 2003      |
| 10/617,034        | ITOH et al.             | July 11, 2003      |

1. European Patent Application No. 0 400 239 A1, published December 5, 1990, to Daito Koeki Kabushiki Kaisha.
2. European Patent Application No. 0 967 271 A1, published December 29, 1999, to Kaneka Corporation.
3. European Patent Application No 1 201 647 A2, published May 2, 2002, to Sumitomo Chemical Co., Ltd.

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INFORMATION DISCLOSURE STATEMENT

4. ITOH et al., "Chiral alcohol production by NADH-dependent phenylacetaldehyde reductase coupled with *in situ* regeneration of NAD<sup>+</sup>," *Eur. J. Biochem.* 269, 2002, pp. 2394-2402.
5. Japanese Patent Application No. 02-312593, published December 27, 1990, to Daito Corp., with English Abstract.
6. Japanese Patent Application No. 2001-294549, published October 23, 2001, to Pfizer Prod. Inc., with English Abstract.
7. Japanese Patent No. 2532299, issued June 27, 1996, to Fuji Rebio Inc., with English Abstract.
8. NAKAMURA et al., "Recent developments in asymmetric reduction of ketones with biocatalysts", *Tetrahedron: Asymmetry Report Number 60, Tetrahedron: asymmetry*, 14, (2003), PP. 2659-2681.
9. SPILIOTIS et al., "Enhanced Optical Purity of 3-Hydroxyesters Obtained by Baker's Yeast Reduction of 3-Ketoesters", *Tetrahedron Letters*, Vol. 31, No. 11, 1990, pp. 1615-1616.
10. U.S. Patent Application Publication No. 2003/0186400 A1, published October 2, 2003, to Asako et al.
11. U.S. Patent No. 4,455,373, issued June 19, 1984, to Higgins.
12. U.S. Patent No. 5,215,919, issued June 1, 1993, to Miya et al.
13. U.S. Patent No. 5,233,095, issued August 3, 1993, to Fellmann et al.
14. WEI et al., "Baker's yeast mediated mono-reduction of 1,3-cyclohexanediones bearing two identical C(2) substituents", *Tetrahedron: Asymmetry*, Vol. 12, 2001, pages 229-233.

One copy of each of the listed documents is submitted herewith.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after

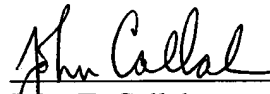
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INFORMATION DISCLOSURE STATEMENT

filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

  
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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: February 26, 2004

Substitute for Form 1449 A &amp; B/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

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Complete if Known

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|------------------------|----------------|
| Application Number     | 10/608,533     |
| Confirmation Number    | 8267           |
| Filing Date            | June 30, 2003  |
| First Named Inventor   | Hiroyuki ASAKO |
| Art Unit               | 1645           |
| Examiner Name          | Unknown        |
| Attorney Docket Number | Q76265         |

## **U.S. PATENT DOCUMENTS**

| Examiner Initials* | Cite No. <sup>1</sup> | Document Number |                                      | Publication Date<br>MM-DD-YYYY | Name of Patentee or Applicant of Cited Document |
|--------------------|-----------------------|-----------------|--------------------------------------|--------------------------------|---|
|                    |                       | Number          | Kind Code <sup>2</sup><br>(if known) |                                |   |
|                    |                       | US 2003/0186400 | A1                                   | 10-02-2003                     | Asako et al.                                    |
|                    |                       | US 4,455,373    | A                                    | 06-19-1984                     | Higgins   |
|                    |                       | US 5,215,919    | A                                    | 06-01-1993                     | Miya et al.                                     |
|                    |                       | US 5,233,095    | A                                    | 08-03-1993                     | Fellmann et al.                                 |
|                    |                       | US              |                                      |                                |   |
|                    |                       | US              |                                      |                                |   |

## **FOREIGN PATENT DOCUMENTS**

| Examiner Initials* | Cite No. <sup>1</sup> | Foreign Patent Document   |                     |                                      | Publication Date<br>MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Translation <sup>6</sup> |
|--------------------|-----------------------|---------------------------|---------------------|--------------------------------------|--------------------------------|---|--------------------------|
|                    |                       | Country Code <sup>3</sup> | Number <sup>4</sup> | Kind Code <sup>5</sup><br>(if known) |                                |   |                          |
|                    |                       | EP                        | 0 400 239           | A1                                   | 12-05-1990                     | Daito Koeki Kabushiki Kaisha                    |                          |
|                    |                       | EP                        | 0 967 271           | A1                                   | 12-29-1999                     | Kaneka Corporation                              |                          |
|                    |                       | EP                        | 1 201 647           | A2                                   | 05-02-2002                     | Sumitomo Chemical Co.                           |                          |
|                    |                       | JP                        | 02-312593           | A                                    | 12-27-1990                     | Daito Corp.                                     | Abstract                 |
|                    |                       | JP                        | 2001-294549         | A                                    | 10-23-2001                     | Pfizer Prod. Inc.                               | Abstract                 |
|                    |                       | JP                        | 2532299             | B2                                   | 06-27-1996                     | Fuji Rebio Inc.                                 | Abstract                 |
|                    |                       |                           |                     |                                      |                                |   |                          |
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|                    |                       |                           |                     |                                      |                                |   |                          |

## **NON PATENT LITERATURE DOCUMENTS**

| Examiner Initials* | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published. | Translation <sup>6</sup> |
|--------------------|-----------------------|--|--------------------------|
|                    |                       | U.S. Patent Application No. 10/608,625 to ASAKO et al., filed June 30, 2003  |                          |
|                    |                       | U.S. Patent Application No. 10/617,034 to ITOH et al., filed July 11, 2003   |                          |
|                    |                       | ITOH et al., "Chiral alcohol production by NADH-dependent phenylacetaldehyde reductase coupled with <i>in situ</i> regeneration of NADA," <i>Eur. J. Biochem.</i> 269, 2002, pp. 2394-2402   |                          |
|                    |                       | NAKAMURA et al., "Recent developments in asymmetric reduction of ketones with biocatalysts", <i>Tetrahedron: Asymmetry Report Number 60, Tetrahedron: asymmetry</i> , 14, (2003), PP. 2659-2681  |                          |
|                    |                       | SPILIOTIS et al., "Enhanced Optical Purity of 3-Hydroxyesters Obtained by Baker's Yeast Reduction of 3-Ketoesters", <i>Tetrahedron Letters</i> , Vol. 31, No. 11, 1990, pp. 1615-1616  |                          |
|                    |                       | WEI et al., "Baker's yeast mediated mono-reduction of 1,3-cyclohexanediones bearing two identical C(2) substituents", <i>Tetrahedron: Asymmetry</i> , Vol. 12, 2001, pages 229-233   |                          |

Examiner Signature

Date Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov), MPEP 901.04 or follow the hyperlink from the title of the document to the intranet. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to indicate here if English language Translation is attached.